REMARKS/ARGUMENTS

Reconsideration and allowance of this application are respectfully requested. Claims 17-20, 25-28 and 51 are pending in this application.

By this Amendment, each of claims 17-20, 25-28 and 51 has been re-written in independent form by incorporating the subject matter of its base independent claim and any intervening claim. The substance of each of claims 17-20, 25-28 and 51 remains the same. All other claims have been canceled – thereby reducing the issues for a potential appeal. Accordingly, entry of this Amendment is in order.

Rejection under 35 U.S.C. §112, First Paragraph:

Claims 52-60 were rejected under 35 U.S.C. §112, first paragraph. Since claims 52-60 have been canceled, this rejection is deemed moot.

Rejection under 35 U.S.C. §103

Claims 1-60 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Hanselmann in view of admitted prior art (APA). Applicant respectfully traverses this rejection with respect to still pending rejections 17-20, 25-28 and 51, each of which has now been re-written in independent form.

In order to establish a *prima facie* case of obviousness, all of the claim limitations must be taught or suggested by the prior art. The combination of Hanselmann and APA fails to teach or suggest all of the claim limitations. For example, Hanselmann fails to teach or suggest following limitations of claims 17-20: "deletion and generation means for generating the source code from an intermediate model, which is generated from the model acquired by the model acquisition means based on the selection information acquired by the selection information acquisition means, the intermediate model containing only a selected specific part selected from
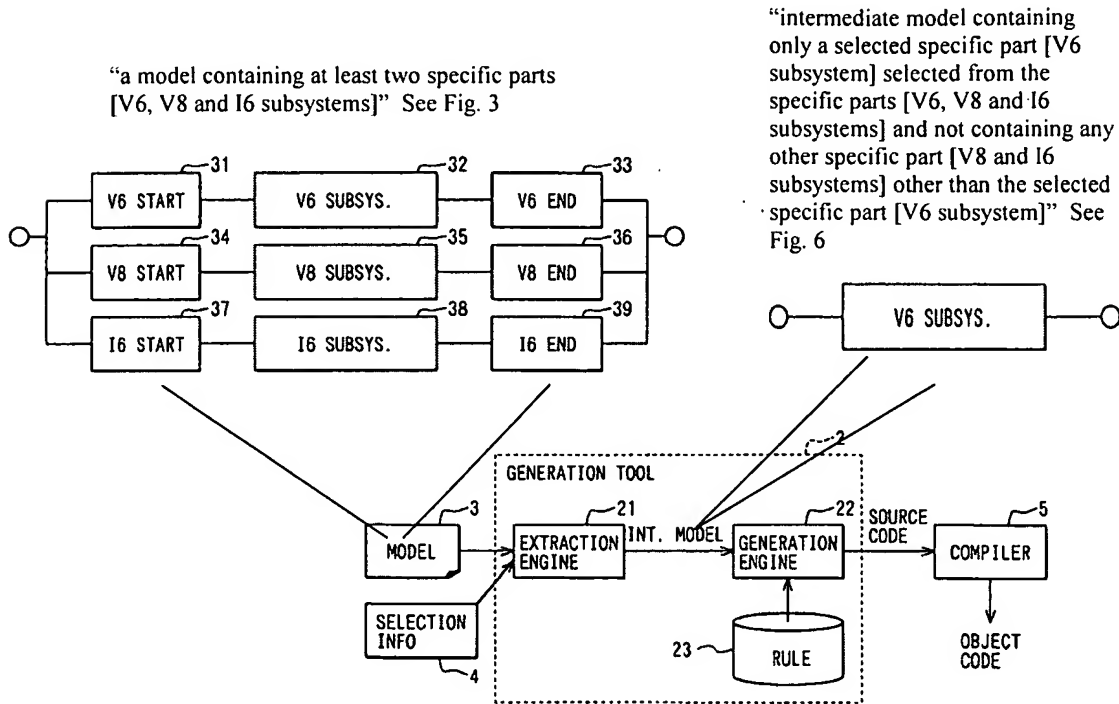
the specific parts and not containing any other specific part other than the selected specific part." Similar comments apply to independent claims 25-28. Hanselmann also fails to teach or suggest following limitations of claims 51: "searching means for searching the combined model containing the information for generating source code associated with the plurality of parts to find part-specific information for generating the part-specific source code associated with the specific part matching the selection information acquired by the selection information acquisition means; [and] intermediate model generation means for deleting portions of the information for generating source code associated with the plurality of parts from the combined model to form an intermediate model, the intermediate model containing only information for generating the part-specific source code."

The subject matter of the present disclosure relates to generating an intermediate model from a model including a plurality of variations or parts by deleting unnecessary parts while limiting to necessary parts. Source code for a specific variation may thus be generated. The plurality of variations may include engine types (claim 17, 25 or 51), destination countries (claim 18 or 26), intended uses (claim 19 or 27), and regulations according to domestic laws of countries (claim 20).

By way of example, an acquired model 3 contains at least two specific parts, such as subsystems corresponding to engine types V6, V8 and I6. An intermediate model is generated from the model 3 to only contain a selected specific part(s) and to exclude a non-selected specific part(s). For example, the following diagram (formed from Figs. 2, 3 and 6 of the application) illustrates that a first intermediate model may be generated from the model 3 containing at least two specific parts V6, V8 and I6, the first intermediate model ("INT MODEL" in the following

diagram) containing selected specific part V6, but excluding non-selected specific parts V8 and

I6 (i.e., specific parts other than the selected specific part).

"a model containing at least two specific parts
[V6, V8 and I6 subsystems]" See Fig. 3

"intermediate model containing
only a selected specific part [V6
subsystem] selected from the
specific parts [V6, V8 and I6
subsystems] and not containing any
other specific part [V8 and I6
subsystems] other than the selected
specific part [V6 subsystem]" See
Fig. 6

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┌─31          ┌─32          ┌─33
│ V6 START │  │ V6 SUBSYS. │  │ V6 END │
┌─34          ┌─35          ┌─36
│ V8 START │  │ V8 SUBSYS. │  │ V8 END │
┌─37          ┌─38          ┌─39
│ I6 START │  │ I6 SUBSYS. │  │ I6 END │
```

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        V6 SUBSYS.
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GENERATION TOOL

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         ┌─3        ┌─21    INT. MODEL ┌─22  SOURCE    ┌─5
      │ MODEL │→│ EXTRACTION │───────│ GENERATION │ CODE │ COMPILER │
                │ ENGINE     │       │ ENGINE     │
      │ SELECTION │
      │ INFO      │
        └─4                    23 ─  │ RULE │        OBJECT
                                                     CODE
```

A second intermediate ("INT. MODEL" illustrated above) model may be generated from

the same model 3 to contain selected specific part V8, but to exclude non-selected specific parts

V6 and I6 (i.e., specific parts other than the selected specific part) based on different selection

information 4. Also, a third intermediate ("INT. MODEL" illustrated above) model may be

generated from the same model 3 to contain selected specific part I6, but to exclude non-selected

specific parts V8 and V6 (i.e., specific parts other than the selected specific part) based on

different selection information 4. Source code may be generated from the intermediate model

(whichever intermediate model is generated) by the generation engine 22.

Through the above-noted limitations, the invention of claims 17-20, 25-28 and 51 may provide the benefit of reducing the volume of the resultant source code and consequently reducing the size of the compiled object code. Moreover, convenience can be increased by allowing information associated with generating source code for various parts to be provided in a combined model having a plurality of parts, and allowing selection of a specific part.

Hanselmann discloses generation of codes for programs mounted in various ECUs using a base model. In contrast to the above-noted claim limitations, Hanselmann allows control widgets to be assembled for a single simulation model that is not even associated with a particular hardware. Indeed, Hanselmann merely describes building a simulation of a single model for a controlled object using various cockpit widgets, without targeting specific hardware. (See, e.g., page 132, col. 1 under heading "4. RCP Software Tools".) Accordingly, if anything, Hanselmann teaches against the invention of claims 17-20, 25-28 and 51, which is directed to a specified specific part selected from among specific parts for generating an intermediate model from which source code may be generated.

Hanselmann fails to begin to even appreciate the benefits from multiple specific parts being contained in a model for a development and selection of a specific part therefrom. In the introduction of page 129 of Hanselmann, the recitation of "type of use (sporty, long-haul, city driving)" merely explains usage as the background of development, while mentions of "improve fuel efficiency and emissions... Regulations..." only explain a requirement or target for improvements, without disclosing specific parts, one or more of which may be selected with other specific parts excluded in order to generate an intermediate model from which source code may be generated. Steps 3-5 of page 129 make reference to "simulation" and "real-time" but fails to provide any teaching or suggestion of selecting a specific part from multiple parts, and

thus fails to teach or suggest, for example, "acquiring selection information... capable of indicating selection of a specific part among the specific parts" as claimed. The "I/O block libraries" specified in step 4 interface with a real product at a real plant and does not select between part types.
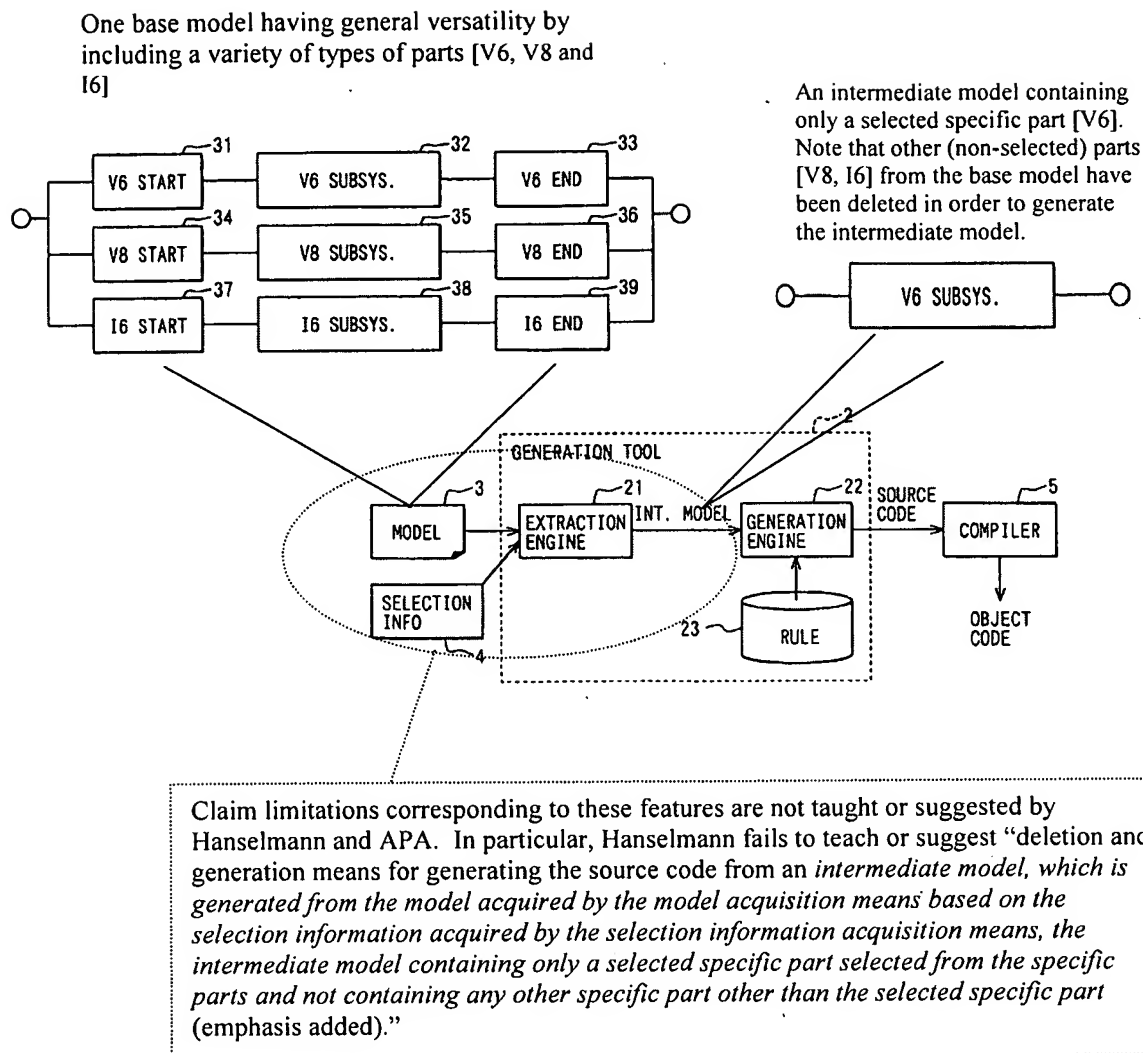
Fig. 5 and page 132 of Hanselmann disclose that widgets (graphical elements) such as gauges, sliders, bar graphs and numeric displays and inputs are available to be "drag-and-dropped" onto a window. However, there is no indication regarding deleting by the drag-and-drop. It appears that Hanselmann's drag-and-drop is used for a user to only add necessary parts. In any event, Hanselmann's "drag-and-drop" is not related to acquiring selection information capable of indicating selection of a specific part among a plurality of specific parts to generate an intermediate model containing only the selected specific parts and not the other (non-selected) specific parts. These non-selected specific parts have been deleted with respect to a base model in order to generate the intermediate model containing only the selected specific parts.

The combination of Hanselmann and APA fail to appreciate:

(i) Providing one base model having general versatility by including a variety of types of parts and narrowing the base model down to an intermediate model functioning as a specific type; and

(ii) Deleting the unnecessary parts from the base model including all the parts based on the external information to thereby generate an intermediate model.

By way of example, these differences are explained graphically below using Figs. 2, 3 and 6 of the application – with added comments.

One base model having general versatility by
including a variety of types of parts [V6, V8 and
I6]

An intermediate model containing
only a selected specific part [V6].
Note that other (non-selected) parts
[V8, I6] from the base model have
been deleted in order to generate
the intermediate model.

Claim limitations corresponding to these features are not taught or suggested by
Hanselmann and APA. In particular, Hanselmann fails to teach or suggest "deletion and
generation means for generating the source code from an *intermediate model, which is
generated from the model acquired by the model acquisition means based on the
selection information acquired by the selection information acquisition means, the
intermediate model containing only a selected specific part selected from the specific
parts and not containing any other specific part other than the selected specific part*
(emphasis added)."

Page 5 of the Office Action admits that Hanselmann does not disclose the claimed

selection information acquisition means. Based on this admission, it necessarily follows that

Hanselmann also does not disclose deletion and generation means for generating the source code

from an intermediate model, which is generated from the model acquired by the model

acquisition means *based on the selection information acquired by the selection information

acquisition means* as additionally required by claims 17-20. Similar comments apply to claims

25-28 and 51. This admitted deficiency with respect to the selection information acquisition means, and necessarily following deficiencies with respect to subsequent limitations which perform based on the output of the selection information acquisition means, are not resolved by the APA.

Page 6 (last paragraph) of the Office Action describes that there are multiple variations in Hanselmann. However, Hanselmann does not teach deletion and generation to generate an intermediate model from the multiple variations based on the selection information.

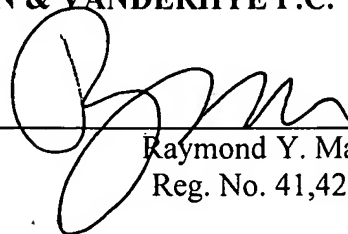Accordingly, Applicant requests that above-noted rejection under 35 U.S.C. §103 be withdrawn.

Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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